

ROOM TEMPERATURE-CURABLE ELASTIC COMPOSITION

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- **European:**

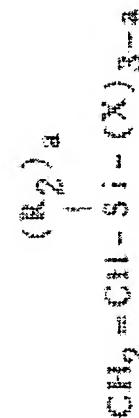
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Abstract of JP 59078220 (A)

PURPOSE: The titled moisture-curable resin composition excellent in weather resistance, heat resistance, and durability, comprising an acrylate ester monomer, a vinylalkoxysilane, and a mercapto group-containing chain transfer agent.

CONSTITUTION: A moisture-curable copolymer composition (room temperature-curable elastic composition preferably of a MW of 3,000-
10X10⁴) is obtained by copolymerizing (A) an acrylate ester monomer of formula I (wherein R₁ is a 2-8C alkyl), e.g., ethyl acrylate, with (B) a vinylalkoxysilane of formula II (wherein R₂ is a 1-4C alkyl, X is methoxy, or ethoxy, and a is 0, 1 or 2), e.g., vinyltriethoxysilane, in the presence of (C) about 0.001-0.05mol, per mol of component A, of a mercapto group-containing chain transfer agent (e.g., n-butyl mercaptan), (preferably component B being used in an amount about 2-6 molar times that of component C).



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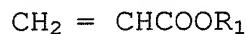
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 10 (71) Applicant: Sunstar Engineering Inc.
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2. CLAIMS

(1) A room-temperature curable elastic composition
 15 which comprises, as a main component, a polymer formed
 by:

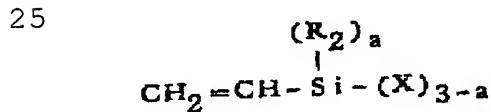
(a) one or more kinds of acrylate ester monomers
 represented by the formula:



20 (wherein R₁ is an alkyl group having 2 to 8 carbon
 atoms);

(b) one or more kinds of vinyl alkoxy silanes
 represented by the formula:

[Chem. 1]



(wherein R₂ is an alkyl group having 1 to 4 carbon
 atoms, X is a methoxy group or ethoxy group, and a is 0, 1,
 30 or 2]; and

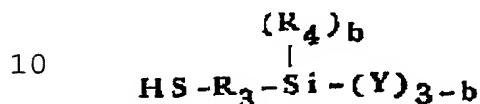
(c) a chain transfer agent containing a mercapto
 group.

(2) The composition according to claim (1),
 35 which uses 0.001 to 0.05 mol of the chain transfer

agent (c) containing a mercapto group per mol of the acrylate ester monomers (a).

5 (3) The composition according to claim (2), which uses, as the chain transfer agent (c) containing a mercapto group, one or more kinds of mercapto alkoxy silanes represented by the formula:

[Chem. 2]



(wherein R_3 is a bivalent hydrocarbon group, R_4 is an alkyl group having 1 to 4 carbon atoms, Y is a methoxy group or ethoxy group, and b is 0, 1, or 2].

15 (4) The composition according to claim (2), which, in the case of using one or more kinds of said mercapto alkoxy silanes as the chain transfer agent (c) containing a mercapto group, uses 1.5 to 5.0 mol of said 20 vinyl alkoxy silanes as the (b) component per mol of the chain transfer agent (c).

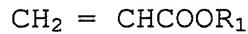
(5) The composition according to claim (2), which, in the case of using a substance other than 25 said mercapto alkoxy silanes as the chain transfer agent (c) containing a mercapto group, uses 2.0 to 6.0 mol of said vinyl alkoxy silanes as the (b) component per mol of the chain transfer agent (c).

30 (6) The composition according to any one of claims (1) to (5), which, in addition to the acrylate ester monomers (a), uses 20 to 50 mol% or less of a polymerizable monomer capable of being copolymerized with the acrylate ester 35 monomers.

page 2, upper right column, line 11 to page 2, lower left column, line 6

That is, the present invention provides a room-
5 temperature curable elastic composition which comprises, as
a main component, a polymer formed by:

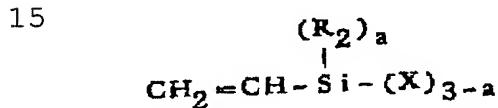
(a) one or more kinds of acrylate ester monomers
represented by the formula:



10 (wherein R_1 is an alkyl group having 2 to 8 carbon
atoms);

(b) one or more kinds of vinyl alkoxy silanes
represented by the formula:

[Chem. 1]



(wherein R_2 is an alkyl group having 1 to 4 carbon
atoms, X is a methoxy group or ethoxy group, and a is 0, 1,
20 or 2); and

(c) a chain transfer agent containing a mercapto
group, and

the composition has excellent light resistance,
weather resistance, heat resistance and decay resistance,
25 and is extremely useful as an elastomeric sealant.